SUMITOMO ELECTRIC

Connect with Innovation

Company Profile

Sumitomo Electric Industries, Ltd.

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https://sumitomoelectric.com

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SUMITOMO ELECTRIC GROUP

Our origin dates back more than 400 years.

Developing business globally in a wide variety of categories,
we have grown into a corporate group operating in
about 40 countries around the world and consisting of
approximately 280,000 employees.
Our origin, namely the Sumitomo copper business,
dates back more than 400 years.

In Japan, which was one of the world's
most prominent copper-producing countries in those days,
the cornerstone of Sumitomo was
laid by the development of the nanban-buki,
an innovative refining technique,
and the subsequent development of the Besshi Copper Mine.

Afterwards, electric light,
the telegraph and the telephone were invented,
raising demand for copper wires.
With this background, in 1897,
the Sumitomo Electric Group was established
as a company manufacturing electric wires
and cables using copper from Besshi.

With progress over time,
our forerunners took on challenges enthusiastically
to contribute to society through manufacturing.

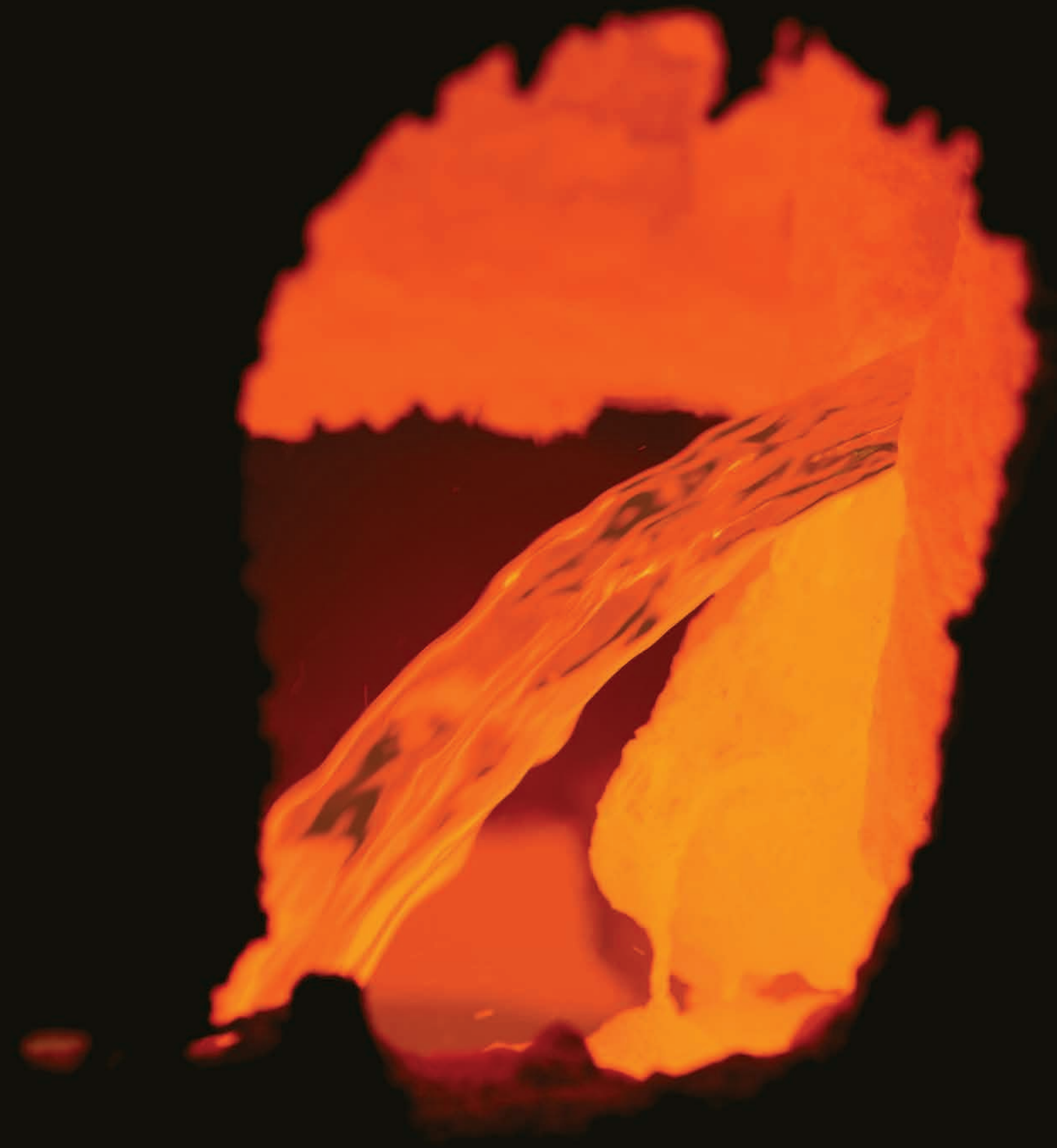


Photo: Present copper refining at the Osaka Works of Sumitomo Electric

Corporate Philosophy

Spirit Handed Down Over 400 Years and Respected to This Day

The Sumitomo Spirit

Business Principles

Article 1 Sumitomo shall achieve prosperity based on solid foundation by placing prime importance on integrity and sound management in the conduct of its business.

Article 2 Sumitomo's business interest must always be in harmony with public interest; Sumitomo shall adapt to good times and bad times but will not pursue immoral business.

(Quoted from the Sumitomo Goshi Kaisha Administrative Regulations, formulated in 1928)

萬事入精
Banji-nissei

Banji-nissei means "do your sincere best, not only in business, but also in every aspect of your life. " Originating from the preamble of Monjuin Shiigaki, it speaks of the importance of sincerity in all human endeavors. Banji-nissei is a pivotal teaching in the Sumitomo Spirit. Accordingly, Sumitomo personnel are expected to work not only to make money, but also to cultivate their character and grow into better human beings.

Monjuin Shiigaki※

信用確実
Shinyo-kakujitsu

The Business Principles Article 1 emphasizes the importance of integrity; that is, being worthy of the trust of others.

不趨浮利
Fusu-furi

In its first part, Article 2 speaks of the importance of working proactively, pursuing profit by quickly and appropriately responding to changes in society and not being content with the status quo.
At the same time, Article 2 emphasizes the importance of harmonizing business gains with the public interest and scorns reckless or careless actions in pursuit of easy gain.
While "furi" means easy, temporary or short-term gain, the term also implies unfair profit obtained through dishonest means.

Sumitomokahou※

In addition, the Sumitomo Spirit also includes the following principles:

Attaching Importance to Technology, Respect for Human Resources, Long-Range Planning, Mutual Prosperity, Respect for the Public Good

※Photos courtesy of Sumitomo Historical Archives

The Sumitomo Electric Group Corporate Principles

Each company of the Sumitomo Electric Group shall:

- **Offer the very best goods and services to satisfy customer needs.**
- **Build technical expertise, realize changes and strive for consistent growth.**
- **Contribute to creating a better society and environment, with a firm awareness of our social responsibility.**
- **Maintain high corporate ethics and strive to become a company worthy of society's trust.**
- **Nurture a lively corporate culture that enables employee self-improvement.**

History

History of Challenges and Innovation Over More Than 120 Years

Business Development

1900
Supplied the Japanese Ministry of Communications with silicon copper wires

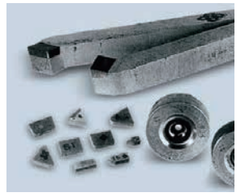
1908
Started production of power cables

1916
Started production of enamel wires

1922

Manufactured and installed 21 km of submarine power cable, the world's longest at that time

1931



Started production of cemented carbide tools, IGETALLOY™

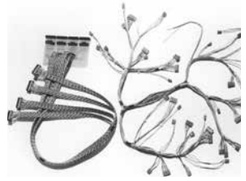
1932

Started production of special steel wires

1943
Started production of anti-vibration rubber

1948
Started production of sintered powder metal products

1949



Started automotive wiring harness business
Entered into the business of construction of overhead conductors

1958

Started production of air spring for railroad vehicles

1964

Started production of electron beam irradiated products (tubes/electric wires)

1968

Started traffic control system business

1969

Started flexible printed circuit (FPC) business

1970
Started production of compound semiconductors
Started CATV business

1973
Started production of coated aluminum (SUMIFLON™)

1976

Received an order for a large telecommunications network project in Nigeria

1978

Started operation of the world's first bi-directional fiber optic CATV system (Hi-OVIS)

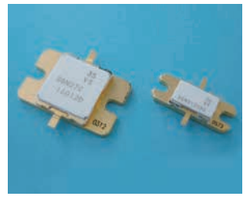
1981
Supplied the world's most advanced fiber optic LAN system (10 Mbps token ring type)

1982

Succeeded in producing the world's-largest-class synthetic monocrystal diamonds (1.2 carats)

1996
Developed a technology for producing long-length oxide high-temperature superconducting wires

2006



Succeeded in the world's first mass production of high-performance gallium nitride transistor (GaN HEMT)

Electric transmission via superconducting cables started on utility power grid for the first time in the world

2016
Started sales of the world's highest fiber count optical cable (3456 fibers)

2017
Broke the world record of low transmission loss of optical fibers (0.1419 dB/km, wavelength: 1560 nm)

2019
Completed the world's first 400kV high-voltage direct current (HVDC) cross-linked polyethylene (XLPE) cable system between UK & Belgium (NEMO Link)

2022

Started a commercial operation of the world's-largest-class redox flow battery system

2023

Scceeded the world's first mass production of ultra-low-loss multi-core optical fibers (MCF)

—Corporate Milestones—

1600 | 1890 | 1900 | 1910 | 1920 | 1930 | 1940 | 19 50 | 1960 | 1970 | 1980 | 1990 | 2000 | 2010 | 2020~

(Photo courtesy of Sumitomo Historical Archives)

Around 1600
Perfected nanban-buki, a copper refining technique for separating silver from copper ore containing silver

1690
Discovered the Besshi Copper Mine (opened the mine in the following year)

(Photo courtesy of Sumitomo Historical Archives)

1897
Started as the Sumitomo Copper Rolling Works

1911
Established Sumitomo Electric Wire & Cable Works

1916
Opened the Osaka Works

1920
Reorganized into Sumitomo Electric Wire & Cable Works

1941
Opened the Itami Works

1946
Opened a branch office in Tokyo (now the Tokyo Head Office)
Opened a local office in Nagoya (now the Chubu District Office)

1961
Opened the Yokohama Works

1969
Established the first overseas production base (Siam Electric Industries Co., Ltd.) in Thailand

1997
Celebrated the 100th anniversary by establishing the Sumitomo Electric Group Corporate Principles

2006
Acquired a German automotive wiring harness manufacturer (now Sumitomo Electric Bordnetze SE)

2007
Made Sumitomo Wiring Systems, Ltd. a wholly owned subsidiary

2008
Established Sumiden Friend, Ltd. (a special subsidiary)

2011
Formulated the Global HRM* Policy, the clarified fundamental HR policy
*HRM: Human Resource Management

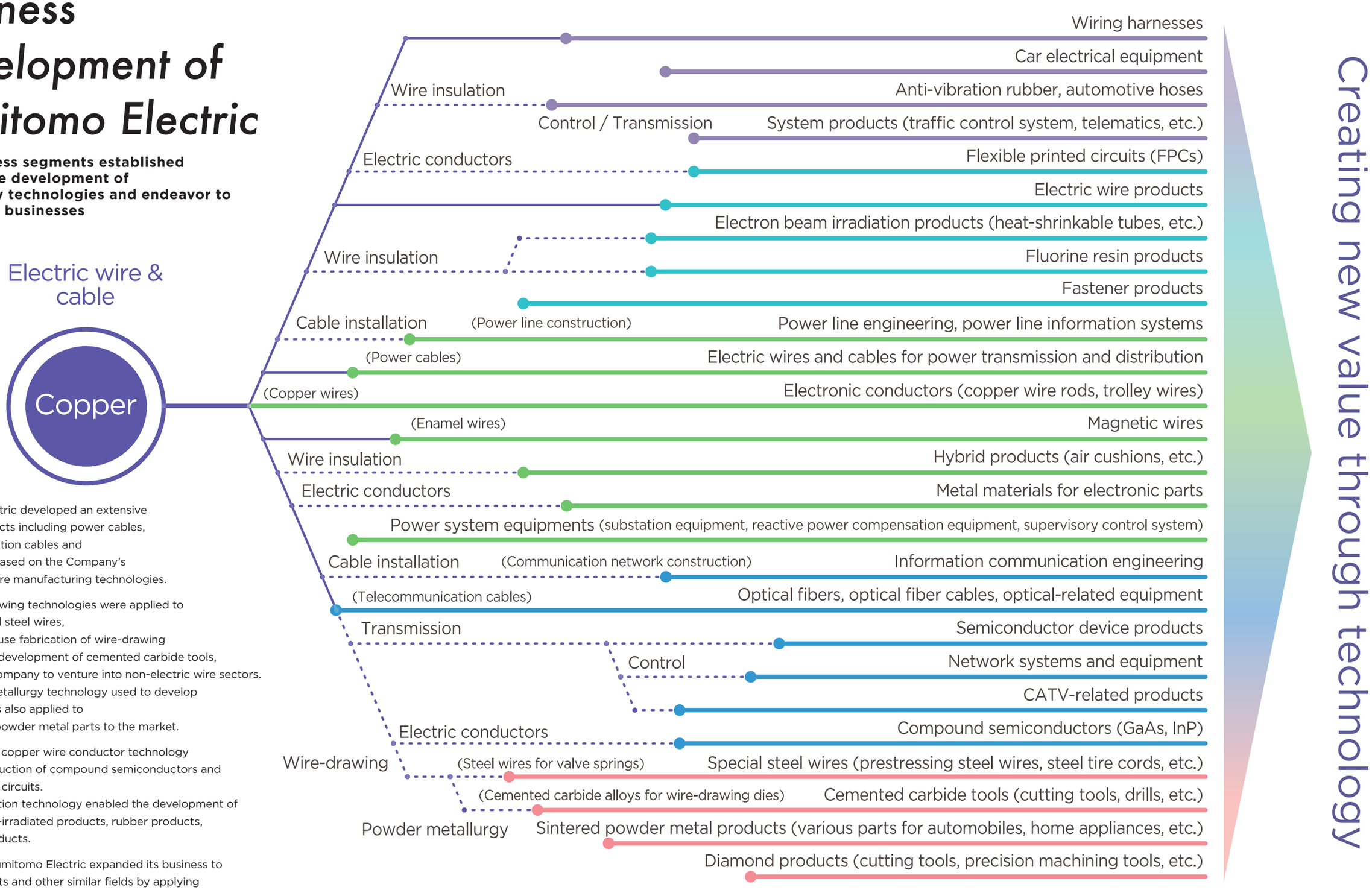
2019
Opened the Ibaraki Works

2021
The Sumitomo Electric Group's target for its greenhouse gas emission reduction was approved by the Science Based Targets initiative (SBTi)

2023
Made TECHNO ASSOCIE Co., Ltd. and Nissin Electric Co., Ltd. wholly owned subsidiaries

Business Development of Sumitomo Electric

Five business segments established through the development of proprietary technologies and endeavor to create new businesses



Sumitomo Electric developed an extensive range of products including power cables, telecommunication cables and electric wires based on the Company's bare copper wire manufacturing technologies.

These wire-drawing technologies were applied to develop special steel wires, while the in-house fabrication of wire-drawing dies led to the development of cemented carbide tools, enabling the Company to venture into non-electric wire sectors. The powder metallurgy technology used to develop these tools was also applied to offer sintered powder metal parts to the market.

Meanwhile, the copper wire conductor technology led to the production of compound semiconductors and flexible printed circuits. The wire insulation technology enabled the development of electron-beam-irradiated products, rubber products, and hybrid products.

Additionally, Sumitomo Electric expanded its business to system products and other similar fields by applying wire and cable manufacturing-related control and transmission technologies.

Currently the Company has five established business segments: Environment & Energy, Info-communications, Automotive, Electronics, and Industrial Materials & Others.

Based on these technologies, Sumitomo Electric will meet the challenges of innovative business fields and contribute to building a better society.

Business Segment

Five business segments as Sumitomo Electric's technological solutions to social issues

Business 01

Building new energy systems for expanded use of renewable energy

Environment & Energy

We see the unveiling of major international grid-interconnection projects in Europe and the growth in electrical power infrastructure demand in emerging nations. The wealth of experience and technology of the Sumitomo Electric Group active in the environmental and energy sectors are sought after against the backdrop of increasing introduction of renewable energy and widespread use of EV. Based on the leading business foundation and track record in Japan, we aim to expand our business worldwide and enhance our global presence.

Endeavoring to realize high-speed, high-capacity telecommunications, meeting the challenge of the increasing data traffic volume

Info-communications

Data traffic has been increasing dramatically due to the expansion of cloud services and the increase in the scale of data centers, which support AI- and IoT-related demand, and the advent of the 5G mobile communication systems, which plays a key role in increasing the network speed. With its strength in the development capabilities and manufacturing technologies for optical fibers and cables, transmission devices, compound semiconductor substrates, and access devices, the Sumitomo Electric Group will achieve large-capacity, high-speed communication and lead the era of digital transformation.

Business 02

Contributing to accelerating improvement delivered by CASE and to the evolution of mobility

Automotive

While the number of automobiles sold around the world is gradually increasing, the number of eco-friendly vehicles is rapidly expanding.
The improvement delivered by CASE* is accelerating and new entrants from other industries are entering the market, taking the automotive industry to the verge of a major period of change. Against this backdrop, Sumitomo Electric is committed to contributing to the evolution of mobility by making the most of the resources of the Sumitomo Electric Group.

* CASE: A term for the trends in the automotive industry; an acronym for Connected, Autonomous, Shared, and Electric

Business 03

Business 04

Supporting further evolution of mobile devices, automobiles and aviation equipment

Electronics

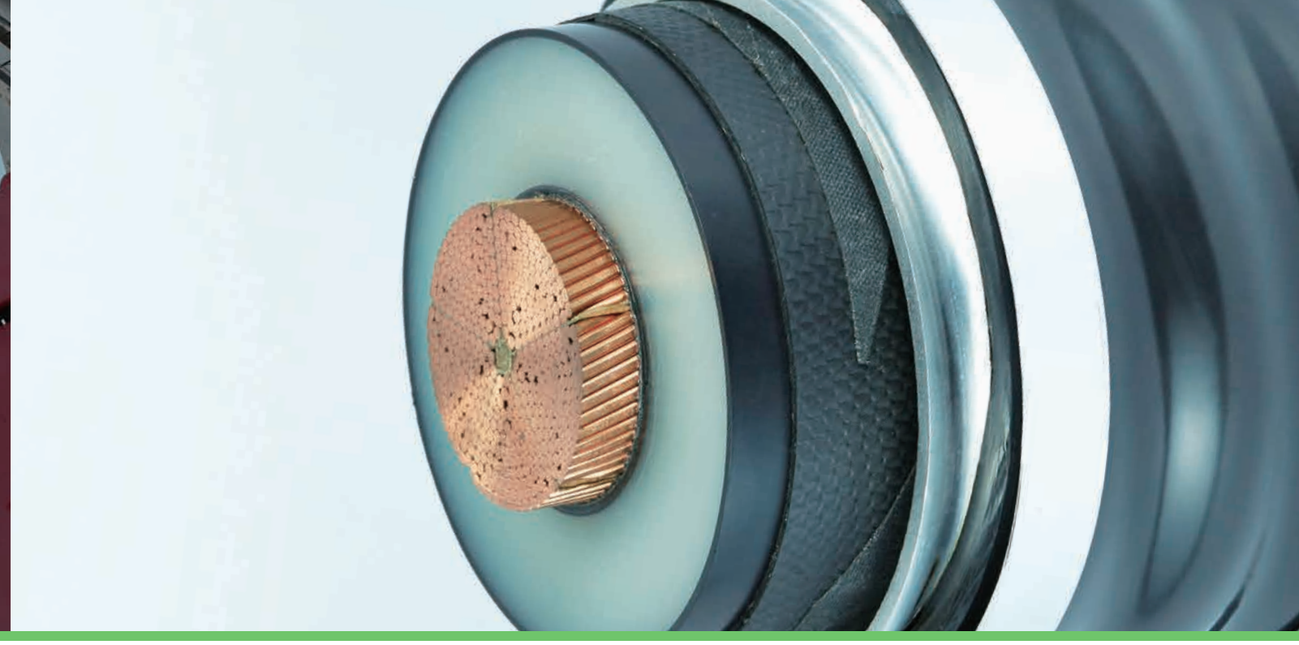
Data transmission volumes of mobile devices are increasing exponentially, accelerating the development of new functionalities and new standards.
Also, there are increasing needs for car electronics in electric and autonomous vehicles and for aviation equipment.
Sumitomo Electric intends to support these growing markets and become a top global supplier of unique high-performance cables, components and materials.

Contributing to the growth of industries and social infrastructure by developing and supplying high-functionality materials

Industrial Materials

There is growing demand for lightweight materials for EV development. In the medical and aviation industries, demand is also growing for Sumitomo Electric Group's products.
The Sumitomo Electric Group aims to become a leading global supplier of high-performance, high-functionality products by leveraging its world-class materials and process technology.

Business 05



Environment & Energy

Contributing to the construction of energy systems around the world with our strong business foundation and technical expertise that we have garnered as a comprehensive power cable manufacturer

In a word, we smelt, solidify and roll copper. Sumitomo Electric's electric wire and cable products evolved from its copper wire production since the Company was established. With a solid foundation and proven track record of achievements among Japan's top-tier businesses in the category of low to ultrahigh voltage electric wire and cable products, Sumitomo Electric supports energy infrastructure throughout Japan. Currently, the technical expertise of the Sumitomo Electric Group is required for the construction of new energy systems in line with trends such as international grid interconnection projects, primarily in Europe, infrastructure development in emerging economies, increasing use of renewable energy and widespread use of electric vehicles. We aim to build a stronger global presence drawing on the Company's strengths such as diverse high-value product families and associated services, project-planning expertise, overall capabilities involving affiliate companies in the heavy electrical machinery and engineering fields, and end-to-end system development from raw material to finished product.

Power Cables

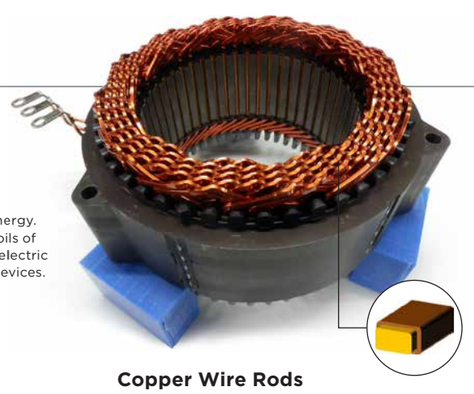
Sumitomo Electric provides various types of electric wires and cables that are used for electric power transmission and distribution networks between power generation plants and consumers. The demand for ultrahigh voltage submarine DC cables has increased, particularly for grid interconnections between electric power companies and between countries, as well as for large-scale offshore wind power generation. Sumitomo Electric contributes to the stable supply of electric power by manufacturing and laying these cables.

Poreflon™ Membrane Wastewater Treatment System

Sumitomo Electric has developed a hollow fiber membrane module for wastewater treatment based on the Company's proprietary technology to create porous polytetrafluoroethylene (PTFE).
The membrane module features high strength and resistance to soiling by oil and other contaminants. The wastewater treatment system using this module recycles wastewater, saves space in installations and reduces the labor required for maintenance. It has a track record of installation for treatment of sewage and various types of industrial wastewater at more than 700 sites in Japan and other countries.
*This product is categorized within the Electronics segment for the purpose of presentation in the financial statements and others.

Magnet Wires

Magnet wires are used to convert electrical energy into magnetic energy. It is widely used for motors and coils of hybrid vehicles, electric vehicles, electric home appliances and electronic devices.



Copper Wire Rods

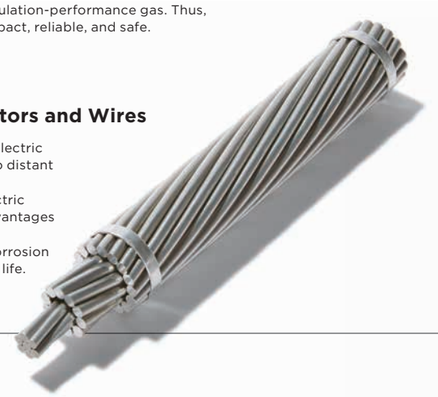
We have been manufacturing copper wire rods for 120 years since our establishment. Used as raw materials of many of our products, they have underpinned a wide range of Sumitomo Electric Group products, including ultra-high-voltage and large-capacity underground/-submarine cables, wiring harnesses, which are called the nerves and blood vessels of automobiles, and magnet wires, which are used as a material for various motors and coils.

Gas insulated switchgears (GISs)

Gas insulated switchgears (GISs) are installed as substation equipment and receiving equipment for safe and stable supply of electricity. Circuit breakers, disconnectors, earthing devices, etc. are enclosed and stored in metal containers using a high-insulation-performance gas. Thus, the equipment is very compact, reliable, and safe.

Overhead Conductors and Wires

Overhead cables transmit electric power from power plants to distant consumer areas through substations. Sumitomo Electric cables come with many advantages including reduced power transmission losses, high corrosion resistance and long service life.



Redox Flow Batteries

The redox flow battery is a storage battery that uses ionic reduction/oxidation reactions for charging and discharging electricity. Long-life and highly safe, it is considered to be an indispensable technology for promoting the introduction of renewable energy such as solar and wind power.

Residential Energy Storage System POWER DEPO™ Series

POWER DEPO™ is our brand of household storage batteries that can be interconnected with solar panels and the power grid. With the growing need for renewable energy, the time has come to produce energy at home. The products make it possible to fully utilize solar power generated at home, thereby contributing to the self-sufficiency of electricity and the creation of an eco-friendly and carbon-neutral society.

Infocommunications

Leading the era of large-capacity high-speed communication with the world-leading development capabilities and manufacturing technologies for optical fibers and cables

Communication infrastructure is an integral part of our social infrastructure. Optical fibers and cables as well as optical communication components and devices offered by the Sumitomo Electric Group play a key role. In the field of optical fibers, which we began manufacturing in the 1970s, we were the first company in the world to mass-produce ultra-low-loss multi-core optical fibers (MCF), which are applicable to transoceanic submarine systems and are highly expected to become the next generation of optical fibers. We have developed a range of products that leverage superior transmission characteristics and high reliability.We have advanced technologies for connectivity, such as world-class design capabilities and manufacturing technologies for ultra-high-fiber-count optical cables for data centers, software development technologies for imaging and optical access devices, and design and manufacturing technologies for compound semiconductors for optical and wireless communication.

Optical Fibers

Thin, hair-like glass optical fiber is a high-performance transmission medium that can carry optical signals within it and propagate them over dozens of kilometers. Optical fiber is free from electromagnetic induction noise and so features stable, high-speed communication over long distances.

Optical Fiber Cables

As increasing lengths of optical fiber cable are installed due to growing demand for optical networks, small-diameter optical fiber cables that offer improved housing efficiency at installation locations are playing an active role. Sumitomo Electric supports optical communication networks with a variety of products, including ultrahigh-fiber-count optical cables adapted to the demand for high-density wiring at data centers.

Compound Semiconductors (GaAs, InP)

Compound semiconductors are used for laser oscillators and photosensitive elements of optical fiber communication systems; various types of transistors for mobile phones and other wireless communication systems; light sources of CD, DVD and Blu-ray disc devices; and white LEDs for lighting.

Optical Fiber Fusion Splicers

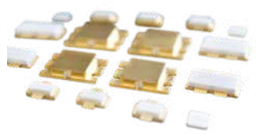
These products are indispensable for building optical networks. With the use of electrical discharge, fusion splicers connect optical fibers that are made of glass, quickly and easily. As the first fusion splicer in the world to incorporate AI technology, it can constantly achieve high-quality splicing regardless of the environment or user skills.

Broadband Network Systems and Equipment

We contribute to realizing a convenient information communication society by offering key devices for new communication and broadcasting services, such as optical access systems (EPON) and 4K set top boxes, and system integration services to comprehensively meet the needs of customers.

Optical Devices

It is an essential component for optical communication, which uses light to transmit information such as video and audio. High-speed, low-power, and compact optical transceivers connect homes, offices, data centers, and cities, enabling long-distance, high-capacity data communication.



Electronic Devices

These are important components to achieve wireless communication. They are used for base stations of 5G mobile communication systems, which are required to be more power-efficient and compact, satellite communication, which are required to ensure high reliability, and radar for air traffic control, vessels and meteorological observation.

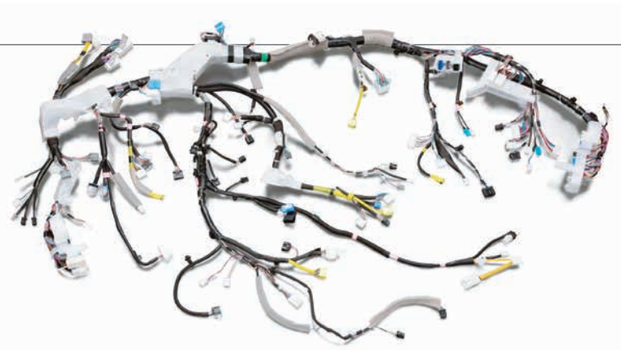
Automotive

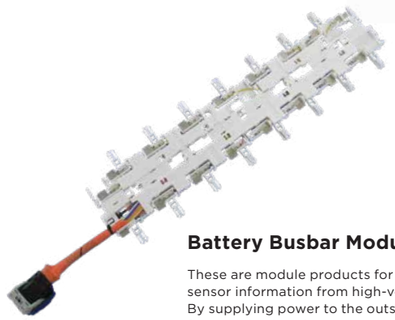
Contributing to the evolution of the automotive industry, leveraging our strength to operate globally in 33 countries and regions

Our primary automotive products are wiring harnesses that run throughout the vehicle, transmitting power and information. Designed to distribute power and information consistently while withstanding the stresses of intense vibration and heat, wiring harnesses require advanced technologies to facilitate the reliable transmission of diverse data in the face of these challenging conditions. In this regard, the Sumitomo Electric Group is far ahead of its competitors. Through concerted efforts, Sumitomo Electric, Sumitomo Wiring Systems, Ltd. and AutoNetworks Technologies, Ltd. have established a prominent presence in the market, with one in four automobiles worldwide incorporating Sumitomo Electric wiring harnesses*. Progressive advances in the application of aluminum wiring harnesses have played a key role in effectively reducing the overall weight of automobiles. Our connecting technologies play a crucial role not only in catalyzing the proliferation of electric vehicles, but also in realizing the concept of connected cars and autonomous driving. These areas require the management of substantial amounts of information, as well as the widespread adoption of hybrid and electric vehicles. In the next generation of vehicles, when automobiles, people, and society will be interconnected, we will accelerate the development of technologies involving electrification, high-speed communication, and infrastructure coordination. This will be in addition to the evolution of conventional wiring harnesses as we strive to expand our "connected" business model as a major partner in facilitating mobility connectivity.

Wiring Harnesses

Wiring harnesses are laid throughout an automobile and play a key role in transmitting energy and information, similar to human blood vessels and nerves. They have become increasingly important components along with the expansion of electronic control functions in automobiles.



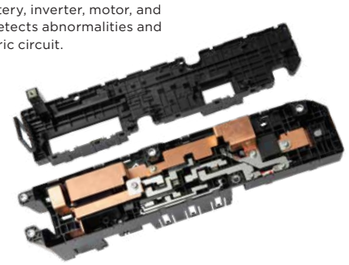


Battery Busbar Module

These are module products for extracting power and sensor information from high-voltage batteries.
By supplying power to the outside of the battery from the busbar that connects the battery cells, the battery's voltage and temperature are sensed and transmitted to the on-board computer (ECU) so that the battery can be used safely and efficiently.

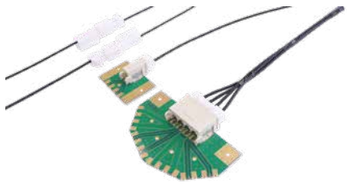
High-Voltage Junction Box

This product is installed in electric vehicles such as EVs and PHEVs.
It has a power distribution function between each electric device such as a high-voltage battery, inverter, motor, and charger. It also detects abnormalities and protect the electric circuit.



High-Speed Communication Harnesses

Advances in CASE have increased the transmission of various information not only inside the vehicle but also outside the vehicle. High-Speed Communication Harnesses, connectors, and wire technologies for high-speed in-vehicle communication transmit large amounts of data without delay, contributing to the realization of a safe, secure, and comfortable car life.



Central Gateway

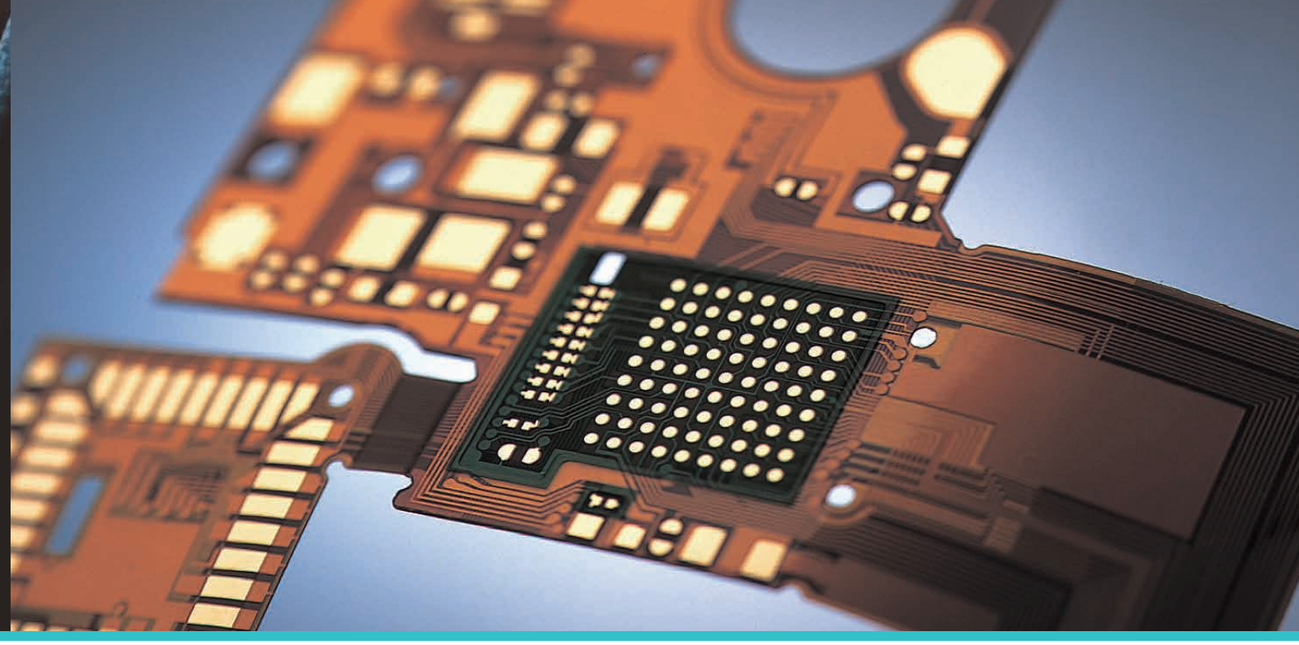
The central gateway plays the role of connecting various electric control units (ECU) in a vehicle and relaying multiple communi-cations.

Traffic Control System /Intelligent Mobility Management System

An intelligent transport system (ITS), which connects people, vehicles and infrastructure through information, helps create a new system that contributes to safety and the environment.
For example, traffic control systems achieve a safe and smooth traffic flow by controlling the traffic signals. We offer various solutions, including the Eagle Sight™ vehicle operation management system that uses ITS/mobility-related technologies, to achieve the optimal flow of people, vehicles and goods.

Anti-vibration Rubber

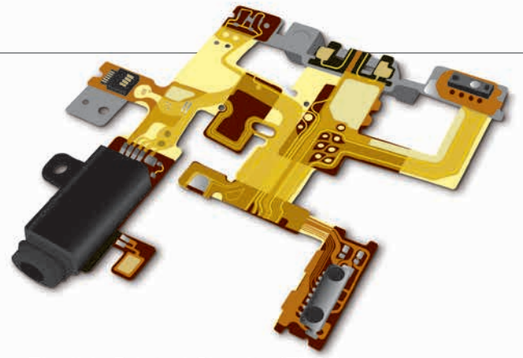
Anti-vibration rubber products are important functional components that absorb and suppress vibrations from the engine and the road to realize safe and comfortable mobility. In response to the electrification of automobiles, we offer an increasing number of products related to electric vehicles (EV) and fuel cell vehicles (FCV).



Electronics

Helping further the evolution of smartphones and other mobile devices, automobiles and aviation equipment throughout the world

The diverse range of raw, wiring and other materials supplied by the Sumitomo Electric Group have supported the evolution of various electronic equipment at the core. Flexible printed circuits, one of our core products, are wiring materials that enable high-density and highly flexible designs in a small area and can be used for increasingly complex wiring in all types of devices. We have electron beam irradiation technology used to produce electric wire products and heat-shrink tubing, and fluorine resin processing technology applied to printer toner fixing rollers. In addition to these proprietary material development, design and processing technologies, we are experts in high-speed data transmission technology, constantly creating products to meet demand for sophisticated functionality. Sumitomo Electric aims to become a global supplier of high-performance cables, components and materials by refining these technologies and strengthening our supply chain to be successful in global competition.

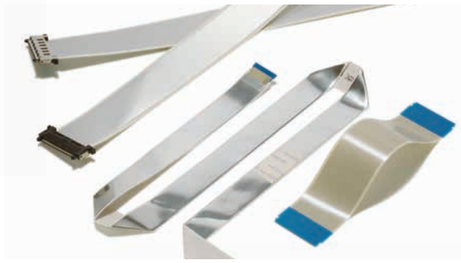


Flexible Printed Circuits (FPCs)

FPCs are wiring materials made by printing electrical circuits on an extremely thin insulated film. Owing to their outstanding features, such as light weight, high heat resistance and flexibility, FPCs offer versatility in high-density electric circuit design. This product helps downsize and sophisticate many electronic devices including smartphones, tablets, game consoles and hard disk drives.

Flexible Flat Cables (SUMI-CARD™)

SUMI-CARD™ is a flat cable ideal for high-density mounting, with an easy single plug/unplug interface for connectors. The flexible flat cable is used in all kinds of everyday electronic devices such as TV sets, office automation equipment and game consoles.
Its adaptation to high-speed transmission standards, such as USB4, PCIe Gen5 and V-by-One US, and to high-temperature environments over 125°C is under way to support sophistication of final products.

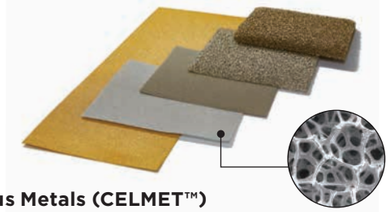


Tab Leads

Tab leads are leads designed to supply electricity from pouch Li-ion batteries used in smartphones and electric vehicles. Sumitomo Electric's tab leads have an insulation layer formed by subjecting the conductor to direct surface treatment to reduce thermal deformation. They offer outstanding durability and sealing reliability, helping improve battery performance and service life.

Thunderbolt™ 4 Cable

Thunderbolt™4 is the latest standard for high-speed transmission compatible with USB4, the latest USB standard. Thunderbolt™4 cables developed by Sumitomo Electric use proprietary high-performance ultra-fine electric wires. Due to their flexibility and superb flex resistance, they enable large-capacity communication in various applications, such as 4K displays and gaming PCs, which require space-saving wiring.

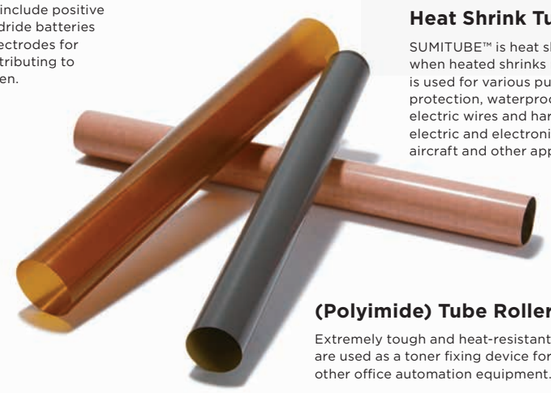


Porous Metals (CELMET™)

CELMET™ is a family of porous metals that have a three-dimensional network structure. In addition to nickel (Ni), alloys such as nickel-chrome (Ni-Cr) and nickel-tin (Ni-Sn) are also used to make CELMET™. Applications of porous metals include positive electrode current collectors for nickel-metal hydride batteries for hybrid vehicles, fuel cell components and electrodes for hydrogen generators, thereby substantially contributing to energy saving and reduced environmental burden.

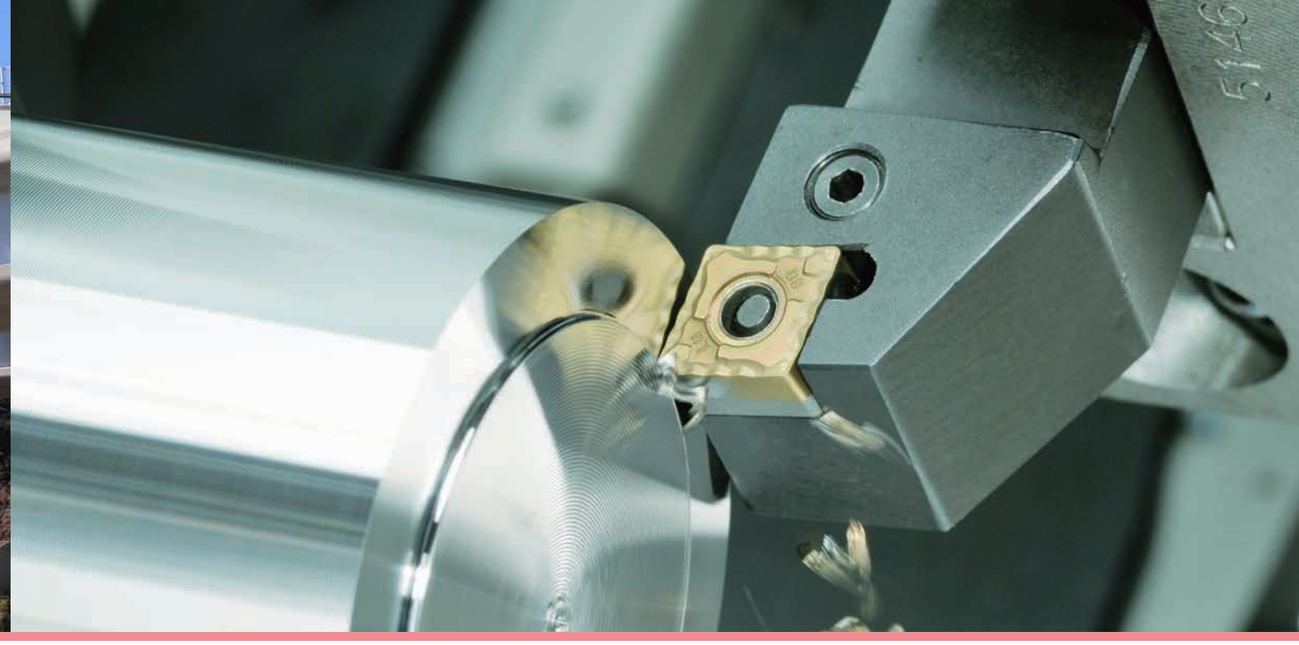
Heat Shrink Tubing (SUMITUBE™)

SUMITUBE™ is heat shrinkable tubing, which when heated shrinks radially inward. This tubing is used for various purposes, such as insulation, protection, waterproofing and bundling of electric wires and harnesses in household electric and electronic appliances, automobiles, aircraft and other apparatuses.



(Polyimide) Tube Rollers for Printer Toner

Extremely tough and heat-resistant, these products are used as a toner fixing device for laser printers and other office automation equipment.



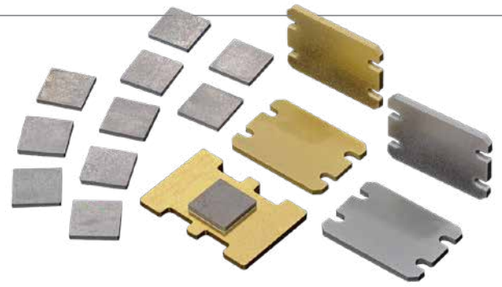
Industrial Materials

Innovating tangible solutions to social challenges by leveraging our world-class materials technology

Materials produced by the Sumitomo Electric Group have evolved on the basis of its thin copper wire-making technology. Our cutting and grinding tools made of materials such as diamond, cubic boron nitride and cemented carbide alloys support all fields of manufacturing throughout the world. Additionally, special steel wires that reinforce concrete structures and tires and sintered powder metal parts used primarily in automobiles are essential for the growth of society and industries. In response to the growing demand for lightweight automotive materials and the growth in the medical and aviation industries, Sumitomo Electric will offer tangible forms of innovative solutions for customer and social challenges, drawing on the Company's world-class materials development capabilities and production technologies.

Cutting Tools (IGETALLOY™, SUMIBORON™ and SUMIDIA™)

Cutting tools are used in various metalworking processes such as cutting, shaping and drilling. Sumitomo Electric provides a wide variety of cutting tools including IGETALLOY™, a cemented carbide alloy characterized by hardness rivaling diamond or cubic boron nitride and steel-like toughness, as well as SUMIBORON™/ SUMIDIA™, whose cutting edges are made from cubic boron nitride or ultrafine diamond particles. With these cutting tools, the Company has long contributed to enhancing productivity and reducing costs in the field of machining.



High performance heatspreader

Copper molybdenum, copper tungsten, ceramics, diamonds and other high-performance heatspreader materials are used to dissipate heat from high-power semiconductor devices installed in electric and hybrid electric vehicles, power converters, communication equipment and LED lighting modules.

Diamond/CBN Tools

Diamond/CBN Tools, which use diamond or Cubic Boron Nitride(CBN) called super-abrasive, achieve high-efficiency and high-quality machining and are supporting wide industrial manufacturing such as the automotive industry, aircraft industry, machinery industry, medical devices industry, semiconductor parts industry and so on.

Sintered Powder Metal Parts

Powder metallurgy technology is a method of producing parts by baking compacts that are molded by compressing metallic powder (sintering). The technology enables the production of parts with high dimensional accuracy and is suitable for volume production of parts featuring complex geometry. Thus, sintered powder metal parts are mainly used in automobiles. Our "compact, lightweight, and high-precision" technology also contributes to electrification.

Special Steel Wires

Special steel wires include wires for valve springs in automobile engines and steel tire cords used to reinforce radial tires. They ensure your driving comfort, meeting the automotive industry's need for energy saving, stability, safety and comfort. Additionally, prestressing steel wires are used to improve the strength and durability of concrete structures, LNG tanks and crossties, among others. They play a fundamental role extensively in society.

President's Message

To become a "Glorious Excellent Company"

At the Sumitomo Electric Group,
we adhere to the Sumitomo Spirit and
the Sumitomo Electric Group Corporate Principles
as the immutable values representing our corporate identity.
While doing so, we are striving to realize our ideal
vision of development into a “Glorious Excellent Company”
to contribute to society through the Group’s growth
and development.

With the progress in technological innovation and
fusion in the fields of energy, info-communications, and mobility,
the world today is at the dawn of a revolutionary era.
As a result of the proliferation of IoT and the creation of
sophisticated energy networks, a wide variety of things,
including electrically-powered vehicles,
are connected with one another.
This will lead to the creation of new services,
which will make people’s daily lives
sustainable, safe, secure, rich and comfortable.

Taking this revolutionary era as
an opportunity for our growth,
we will marshal all of the forces within
our corporate group, leverage our connecting and
supporting technologies developed since
our establishment and promote innovation,
thereby providing new technologies,
products and services.
By doing so, we will strive to realize further growth
and contribute to an even better society.

In this regard, we look forward to receiving
continuous support and guidance from all of you.

President
Osamu Inoue

Company Profile

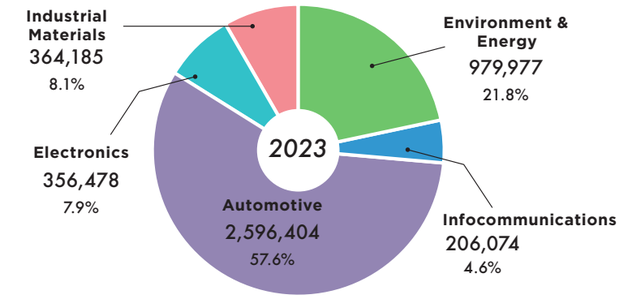
For the latest data
https://sumitomoelectric.com/company/profile

Company Name	Sumitomo Electric Industries, Ltd.
Head Office	4-5-33, Kitahama, Chuo-ku, Osaka, Japan
Established	April 1897
Capital Stock	99,737 million yen
President	Osamu Inoue
Employees	Non-consolidated 6,995 Consolidated 293,266 (as of the end of March 2024)

Sales by Business Segment

※The following data includes intersegment sales and therefore total segment sales differ from net sales data. These figures are rounded to the first decimal place.

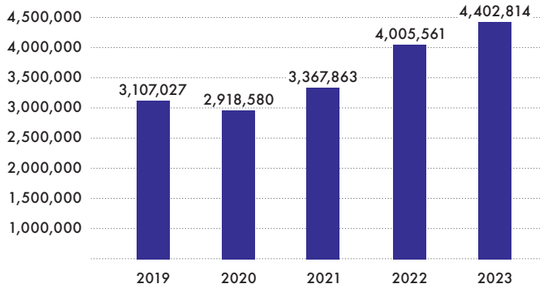
(Millions of Yen)



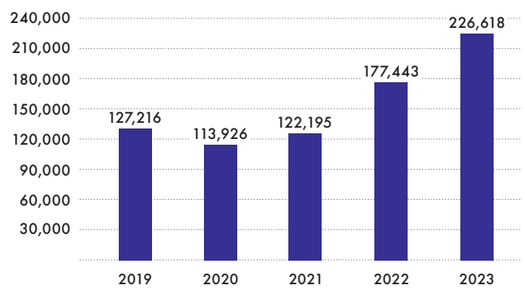
Performance Trend (consolidated)

(As of the end of March 2024)

Amount of Sales (Millions of Yen)



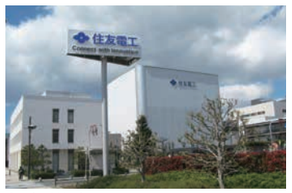
Operating income (Millions of Yen)




Head Office (Osaka)


Head Office (Tokyo)


Chubu District Office


Osaka Works


Itami Works

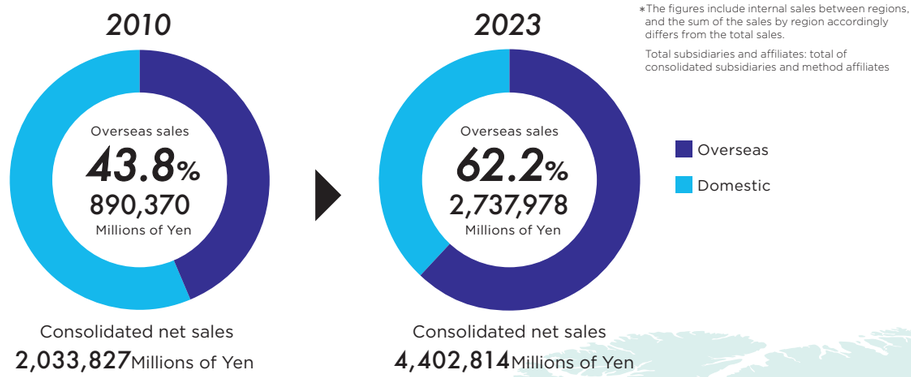

Yokohama Works

Global Network

Sumitomo Electric Group Operating Globally and Underpinning Society

Operating in approx. 40 countries around the world **With 415 subsidiaries and affiliates**

Consisting of approx. 290,000 employees



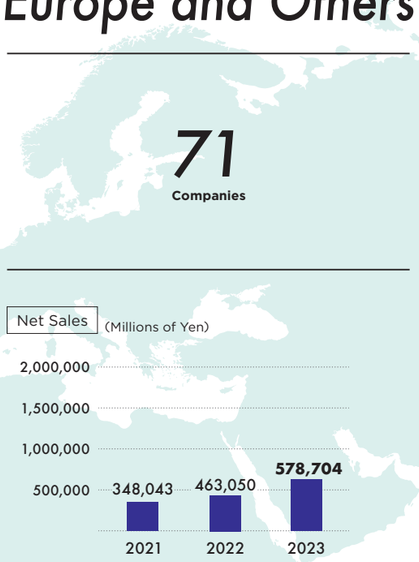
*The figures include internal sales between regions, and the sum of the sales by region accordingly differs from the total sales.

Total subsidiaries and affiliates: total of consolidated subsidiaries and method affiliates

Europe and Others

71
Companies

Net Sales (Millions of Yen)



[TOPICS]

Wiring Harnesses of the Same Best Quality Worldwide

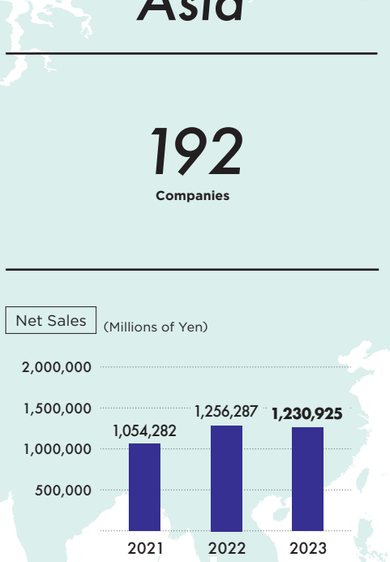
Wiring harnesses are used to transmit electric power and information in automobiles. The Sumitomo Electric Group has developed wiring harnesses for which aluminum, rather than copper, is used as an electric wire material, thereby realizing a considerable weight reduction. For our daily manufacturing, we are striving to ensure that products from every production site around the world have the same and highest quality. This policy is always followed in production and *kaizen* activities, even in Morocco, the largest production center in North Africa.

Production site in Morocco

Asia

192
Companies

Net Sales (Millions of Yen)



[TOPICS]

Construction of a High-quality Direct Current Power Transmission System

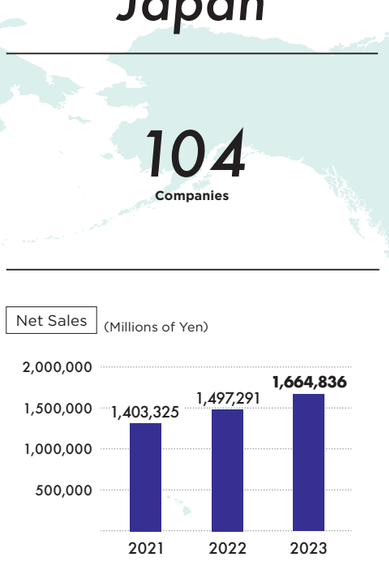
In March 2021, a direct current power transmission system (2,000 MW) constructed in southern India jointly by Sumitomo Electric and Siemens Energy, came into commercial operation. The two companies had been awarded a contract to construct the system, including underground cables, for the purpose of tackling the shortage of power supply and stabilizing power transmission in the area. The power transmission system constructed at this time is expected to improve the stability of power transmission, the quality of electric power and the efficiency of power supply in India.

Cable installation site in India

Japan

104
Companies

Net Sales (Millions of Yen)



[TOPICS]

Safe Redox Flow Batteries with Long Service Life

Large-scale storage batteries are attracting attention as a means to realize a decarbonized society and promote the introduction of renewable energy. Our redox flow batteries have a long service life and are safe because there is no risk of ignition. They have been selected by electric power companies and other users in and outside Japan as a measure to stabilize power grids that incorporate wind and solar power, enable peak-load shifting, and enhance grid resilience by building microgrids. Recently, the products were introduced as storage batteries (the world's largest capacity as a single facility) on the grid side at Hokkaido Electric Power Network, Inc. and went into operation in April 2022.

Redox flow battery system for Hokkaido Electric Power Network, Inc.

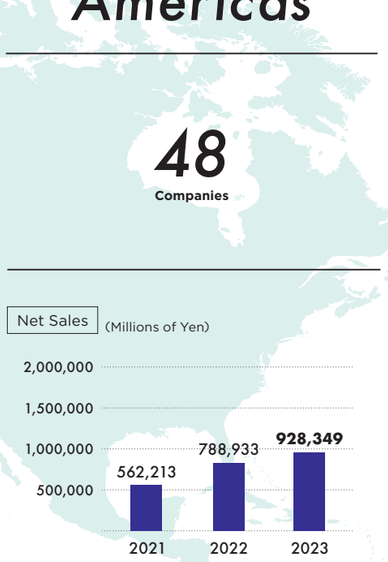
Details of the major Group companies (by area and by segment)

https://sumitomoelectric.com/company/office_group_companies

Americas

48
Companies

Net Sales (Millions of Yen)



[TOPICS]

Cemented Carbide Alloy Recycling to Reduce Environmental Burdens

Rare metals such as tungsten are precious resources, used as main raw materials for cemented carbide tools. For the purpose of securing a stable supply of raw materials and effectively using resources, the Sumitomo Electric Group has established a system to collect, melt and recycle used tools. In addition to Japan, the Group set up recycling facilities in the USA, making Group-wide efforts to contribute to the reduction of environmental burdens.

Plant in NY, U.S.A. with recycling system

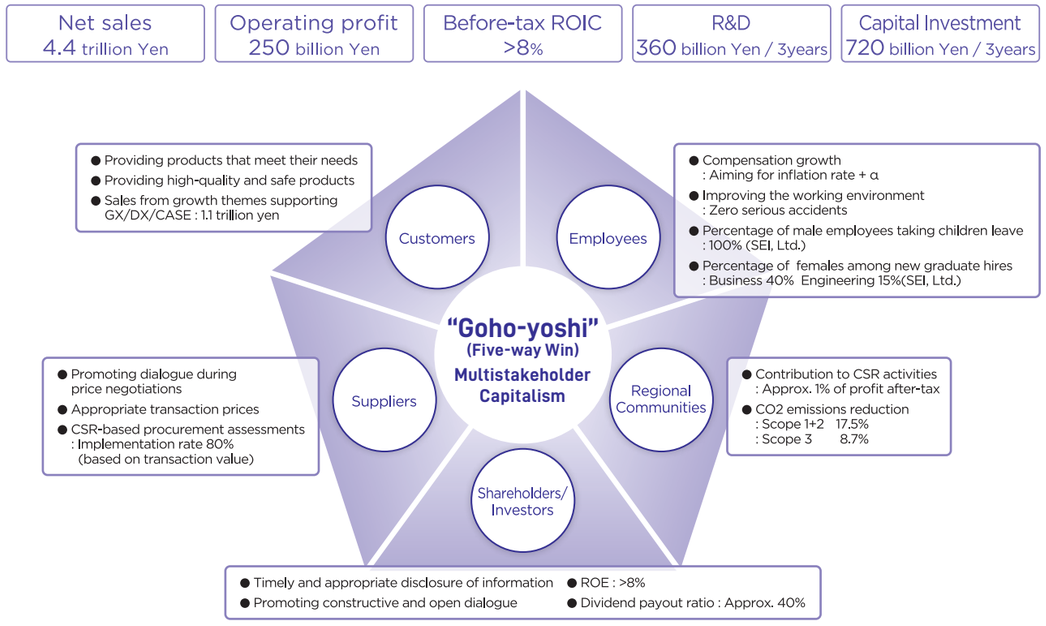
More information on tungsten recycling

https://sumitomoelectric.com/id/project/v17/01

Our Vision

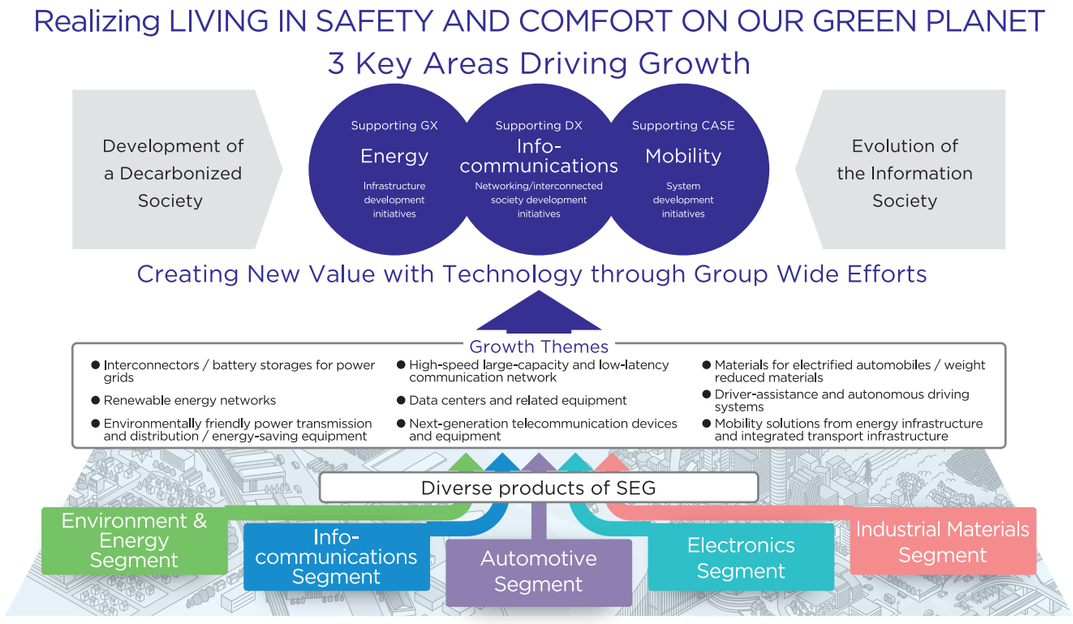
Mid-term Management Plan 2025

"Goho-yoshi" (Five-way Win)・Multistakeholder Capitalism



In line with our long-term vision "Sumitomo Electric Group 2030 Vision" announced in May 2022, we have formulated the "Mid-term Management Plan 2025" as a three-year action plan for FY2023-FY2025.
Under the "Mid-term Management Plan 2025", which carries the slogan "Creating a Green Society through our Connecting and Supporting Technologies", the Sumitomo Electric Group (SEG) will work on growth strategies and strengthening our business foundations with the integrated capabilities of the Group. By determinedly seizing business opportunities towards the "Advancement of a Decarbonized Society" and "Evolution of the Information Society", SEG will appropriately distribute the results of this growth to our multistakeholder partnerships.
Collaboration with our multistakeholder partnerships is essential for our sustainable growth and for the medium- and long-term enhancement of the Group's corporate value. SEG will steadily return the results of this growth to our multistakeholder partnerships. In line with our philosophy "Multistakeholder Capitalism", SEG will strive to pursue the indicators and targets listed above.

Growth Strategies・Strengthening Business Foundations



By driving growth in 3 key areas;" Energy"," Info-communication" and "Mobility", SEG has identified 9 cross-group themes as "Growth Themes" seizing business opportunities increased as part of progress towards the "Advancement of a Decarbonized Society" and "Evolution of the Information Society".
Through a diverse product portfolio, SEG will contribute to realizing "Living IN SAFETY AND COMFORT ON OUR GREEN PLANET" by creating new value with technology.
In addition, SEG will strengthen our management foundations to build a corporate structure that is resilient to change.
Notably in "R&D", SEG will strive to develop the current business by capturing customer needs and challenge new territories based on future society needs. Also, SEG will work on building "a production system" to achieve world class qualities and "a solid supply chain" that can withstand abrupt fluctuations.

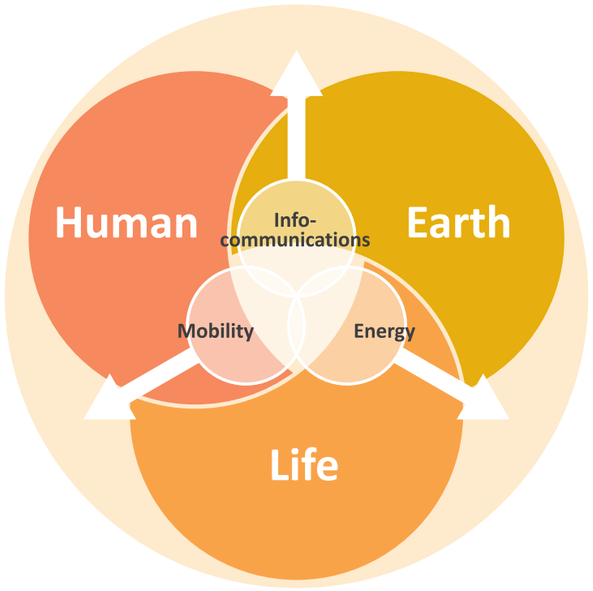
Sumitomo Electric Group Mid-term Management Plan 2025
https://sumitomoelectric.com/company/segmid-term2025

Sumitomo Electric Group 2030 VISION
https://sumitomoelectric.com/company/segvision2030

Research & Development

Research and Development for the Next Generation

With our focus on the fields of energy, info-communications and mobility, we will take on the challenges of reinforcing a wide variety of our core technologies, generating innovations to respond to revolutions in the areas of automobiles and energy and to fusion of these areas, and creating innovative technologies expected to result in revolutionary social changes.



Customer Needs

Developing the Current Businesses

Closer collaboration with business and sales, partnering with customers to intensify development efforts centered around focused business areas

- **Reinforcing the power grid and stable supply of renewable energy**
  Next generation ultra-high voltage cables, wind power and Smart Grid technology, etc.
- **High-speed large-capacity and low latency for telecommunication networks**
  Next-generation ultrafast optical communications and 5G and Beyond5G related technologies, etc.
- **Electrification in mobility**
  Electrification systems in cars and other related materials, next-generation communication technologies, etc.
- **Evolution of high-performance products**
  Sensing tools and thin motors, etc.

Challenging into New Territories

Future Society Needs

Capturing the diverse needs of the society and challenging to new territories through the use of core technology and creating innovative technologies

- **Green**
  Promoting R&D in energy savings, renewable energy and material recycling to maximize the possibility of creating a Sustainable Planet

  Hydrogen technology / CCUS to achieve carbon-free, environmentally-friendly power cables, next-generation wastewater treatment films, materials separation technology, etc.
- **Safe and comfortable**
  R&D to expand safe and comfortable Living and broaden the possibility of Human Kind

  Photonics-Electronics Convergence Technology for an All-Photonics Network
  Technology related to Connected and automotive on-board network

Efficient R&D process by using Big Data / AI / Machine Learning

Validate market and business opportunity

TOPICS

Research and Development Expenses (Consolidated) **142,000 million yen** **(as of the end of March 2024)**

01

Accelerates the Development of Automotive Optical Harnesses for Practical Use in 2026

We have accelerated the development of an automotive optical harness for commercial use in 2026. Unlike conventional products, the wire harness under development is capable of both high-speed, large-capacity communication* and weight reduction, and also has excellent noise resistance.
By combining the optical communication technology and wiring harness technology that we have cultivated over many years, we will contribute to increasing the added value of in-vehicle communication networks and the advancement of CASE.

* Ultra-high-speed communication with a transmission speed of over 10 Gbps is possible

02

Develops the World's First 19-core Optical Fiber with Standard Outer Diameter and Sets New World Record for Transmission Capacity —Achieving key technology for beyond 5G long-distance optical communication—

We are promoting the development of multi-core optical fiber (MCF) as a next-generation large-capacity optical communication infrastructure.
The 19-core MCF developed by our company is expected to be a key technology that dramatically improves communication capacity while reducing the power consumption of transmission equipment.
By realizing large-capacity optical communication while reducing environmental impact, we will contribute to the development of the infocommunication society.

03

Starts Joint Study on the Practical Application of Quantum Computing in the Logistics Business —Calculating the optimal delivery route instantly for improving logistics efficiency—

As the needs for the movement of people and goods become more complex, advanced analysis technology for information and knowledge aggregated in cyberspace is required. We are promoting the application of quantum computers, which are characterized by large-scale and complex combinatorial optimization calculations, to logistics and delivery systems.
Going forward, we will contribute to society through technological development aimed at realizing Society 5.0, such as traffic optimization for the entire city.

Sumitomo Electric Group R&D
https://sumitomoelectric.com/rd

Sumitomo Electric Group Technical Review
https://sumitomoelectric.com/rd/technical-reviews/all

Based on the spirit of

“contributing to the public benefit through business while striving to ensure mutual prosperity with our stakeholders,”

Contribute to building a better society by pursuing Top Technology and innovation on a global scale, using the integrated capabilities of Sumitomo Electric Group.

Sumitomo Electric Group is committed to this group purpose

SUMITOMO ELECTRIC

Connect with Innovation

Sumitomo Electric Group e-magazine "id"
https://sumitomoelectric.com/id

Sumitomo Electric Group CSR Report
https://sumitomoelectric.com/csr-reports/231

Sumitomo Electric Group Integrated Report
https://sumitomoelectric.com/company/integrated

Photo: Loading a cargo ship with the world's highest voltage 400 kV DC XLPE insulated cable for use in the International UK-Belgium Interconnector Project